

## **Effect of plasma lipid content on interpreting chlorinated hydrocarbon concentration in bald eagles**

*Lilly Cesh\*, Simon Fraser University*

*David Garcelon, Institute for Wildlife Studies*

*Tony Williams, Simon Fraser University*

*John Elliott, Canadian Wildlife Service*

Keywords: DDE, PCBs, bald eagle, lipid

Previous studies have shown a correlation between contaminants and plasma lipid levels, resulting in the assumption that contaminant data should be normalized for lipids. This study investigated the relationship between lipids and contaminants accounting for lipid variation in association with body mass and age of chicks, as well as by examining feeding effects. Blood samples were collected from nestling bald eagles at 5 sites in British Columbia and 1 site in Southern California. All samples were analyzed for a suite of organochlorine pesticides and polychlorinated biphenyls. Samples were also assayed for triglycerides, non-esterified fatty acids, and for total lipids. A captive study was also done to show post feeding flux of lipids by sequential blood sampling of adult and juvenile bald eagles before, during, and after fasting and feeding cycles. DDE concentrations were significantly higher in nestling bald eagles from Santa Catalina Island, CA than from sites in British Columbia, consistent with a known source in that area. Lipids did not vary with mass or age. There was no correlation between any measure of lipid and contaminant levels. Data will be further analyzed and compared to results of the study of captive eagles.